

Title (en)  
PD-1 AND LAG-3 BINDING MOLECULES AND METHODS OF USE THEREOF

Title (de)  
PD-1 UND LAG-3-BINDENDE MOLEKÜLE UND VERFAHREN ZUR VERWENDUNG DAVON

Title (fr)  
MOLECULES DE LIAISON PD-1 ET LAG-3 ET LEURS PROCÉDÉS D'UTILISATION

Publication  
**EP 3456346 B1 20210707 (EN)**

Application  
**EP 18199685 A 20160728**

Priority  
• US 201562198867 P 20150730  
• US 201562239559 P 20151009  
• US 201562255140 P 20151113  
• US 201662322974 P 20160415  
• EP 16831339 A 20160728  
• US 2016044430 W 20160728

Abstract (en)  
[origin: WO2017019846A1] The present invention is directed to selected anti-PD-1 antibodies capable of binding to both cynomolgus monkey PD-1 and to human PD-1 : PD-1 mAb 1, PD-1 mAb 2, PD-1 mAb 3, PD-1 mAb 4, PD-1 mAb 5, PD-1 mAb 6, PD-1 mAb 7, PD-1 mAb 8, PD-1 mAb 9, PD-1 mAb 10, PD-1 mAb 11, PD-1 mAb 12, PD-1 mAb 13, PD-1 mAb 14, or PD-1 mAb 15, and to humanized and chimeric versions of such antibodies. The invention additionally pertains to PD-1 -binding molecules that comprise PD-1 binding fragments of such anti-PD-1 antibodies, immunoconjugates, and to bispecific molecules, including diabodies, BiTEs, bispecific antibodies, etc., that comprise (i) such PD-1 -binding fragments, and (ii) a domain capable of binding an epitope of a molecule involved in regulating an immune check point present on the surface of an immune cells. The present invention also pertains to methods of using molecules that bind PD-1 for stimulating immune responses, as well as methods of detecting PD-1.

IPC 8 full level  
**A61K 39/00** (2006.01); **A61K 39/395** (2006.01); **C07K 16/28** (2006.01)

CPC (source: CN EP IL KR US)  
**A61P 1/04** (2018.01 - EP IL); **A61P 1/16** (2018.01 - EP IL); **A61P 1/18** (2018.01 - EP IL); **A61P 5/18** (2018.01 - EP IL); **A61P 5/38** (2018.01 - EP IL); **A61P 11/00** (2018.01 - EP IL); **A61P 13/08** (2018.01 - EP IL); **A61P 13/10** (2018.01 - EP IL); **A61P 13/12** (2018.01 - EP IL); **A61P 15/00** (2018.01 - EP IL); **A61P 17/00** (2018.01 - EP IL); **A61P 19/00** (2018.01 - EP IL); **A61P 21/00** (2018.01 - EP IL); **A61P 25/00** (2018.01 - EP IL); **A61P 31/00** (2018.01 - EP IL); **A61P 31/04** (2018.01 - EP IL); **A61P 31/10** (2018.01 - EP IL); **A61P 31/12** (2018.01 - EP IL); **A61P 33/00** (2018.01 - EP IL); **A61P 35/00** (2018.01 - CN EP IL); **A61P 35/02** (2018.01 - CN EP IL); **A61P 35/04** (2018.01 - CN EP IL); **A61P 37/04** (2018.01 - EP IL); **C07K 16/2803** (2013.01 - EP IL KR US); **C07K 16/2818** (2013.01 - CN EP IL KR US); **G01N 33/574** (2013.01 - CN KR); **G01N 33/577** (2013.01 - CN); **G01N 33/6872** (2013.01 - CN); **G01N 33/6893** (2013.01 - KR); **A61K 2039/505** (2013.01 - CN KR); **C07K 2317/24** (2013.01 - CN EP IL KR US); **C07K 2317/31** (2013.01 - EP IL KR US); **C07K 2317/33** (2013.01 - EP IL KR US); **C07K 2317/52** (2013.01 - CN IL US); **C07K 2317/565** (2013.01 - CN); **C07K 2317/76** (2013.01 - EP IL KR US); **C07K 2317/92** (2013.01 - CN EP IL US); **C07K 2317/94** (2013.01 - CN); **G01N 2333/70521** (2013.01 - CN); **G01N 2333/70596** (2013.01 - KR)

Cited by  
US10954301B2; US11840571B2

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
**WO 2017019846 A1 20170202; WO 2017019846 A8 20180125**; AU 2016298227 A1 20180222; AU 2016298227 A2 20180913; AU 2016298227 A8 20180308; AU 2016298227 B2 20191003; AU 2016298227 B9 20191031; AU 2018214151 A1 20180830; AU 2018214151 B2 20191031; AU 2020200054 A1 20200130; AU 2020200054 B2 20220303; AU 2022200168 A1 20220210; CA 2993948 A1 20170202; CL 2018000254 A1 20180720; CN 107847574 A 20180327; CN 107847574 B 20230523; CN 108976300 A 20181211; CN 108976300 B 20230414; CN 114773475 A 20220722; CN 114773475 B 20240112; CN 116333138 A 20230627; CO 2018000867 A2 20180419; CR 20180062 A 20180525; CR 20200423 A 20210120; CR 20220194 A 20220616; CY 1124634 T1 20220722; CY 1124723 T1 20220722; DK 3328419 T3 20211011; DK 3456346 T3 20210830; EA 201890296 A1 20180831; EC SP18006831 A 20180430; EP 3328419 A1 20180606; EP 3328419 A4 20181226; EP 3328419 B1 20210825; EP 3456346 A1 20190320; EP 3456346 B1 20210707; EP 3981792 A1 20220413; ES 2898511 T3 20220307; ES 2898958 T3 20220309; GE P20227419 B 20221010; GE P20227438 B 20221110; GE P20237538 B 20230911; HK 1248106 A1 20181012; HR P20211333 T1 20211126; HR P20211645 T1 20220204; HU E055207 T2 20211129; HU E056201 T2 20220228; IL 257216 A 20180329; IL 257216 B 20220301; IL 287916 A 20220101; IL 287916 B1 20230501; IL 287916 B2 20230901; IL 290571 A 20220401; IL 290571 B 20221101; IL 290571 B2 20230301; IL 297090 A 20221201; JO 3736 B1 20210131; JO P20200213 A1 20221030; JP 2018524394 A 20180830; JP 2019055948 A 20190411; JP 2022002540 A 20220111; JP 2023075241 A 20230530; JP 6959897 B2 20211105; JP 6959907 B2 20211105; JP 7245304 B2 20230323; KR 20180034588 A 20180404; KR 20180093127 A 20180820; LT 3328419 T 20211110; LT 3456346 T 20210927; MA 42542 A 20210526; MA 42542 B1 20210930; MD 3328419 T2 20220131; MD 3456346 T2 20211130; MX 2018001227 A 20180326; MX 2019001161 A 20190704; MX 2022014645 A 20221215; PE 20181151 A1 20180717; PE 20231958 A1 20231206; PE 20240111 A1 20240122; PH 12018500232 A1 20180829; PL 3328419 T3 20211227; PL 3456346 T3 20211220; PT 3328419 T 20211126; PT 3456346 T 20210928; RS 62374 B1 20211029; RS 62568 B1 20211231; SG 10201906059V A 20190827; SG 10202010506T A 20201127; SI 3328419 T1 20211130; SI 3456346 T1 20211130; TW 201710292 A 20170316; TW 202028234 A 20200801; TW 202229357 A 20220801; TW 1691509 B 20200421; TW I762879 B 20220501; TW I833183 B 20240221; UA 127372 C2 20230802; US 10577422 B2 20200303; US 11623959 B2 20230411; US 2019127467 A1 20190502; US 2020231675 A1 20200723; US 2023357404 A1 20231109; ZA 201800500 B 20201028; ZA 201807856 B 20200930

DOCDB simple family (application)

**US 2016044430 W 20160728;** AU 2016298227 A 20160728; AU 2018214151 A 20180810; AU 2020200054 A 20200103;  
AU 2022200168 A 20220112; CA 2993948 A 20160728; CL 2018000254 A 20180129; CN 201680044392 A 20160728;  
CN 201810940625 A 20160728; CN 202210614282 A 20160728; CN 202310501230 A 20160728; CO 2018000867 A 20180129;  
CR 20180062 A 20160728; CR 20200423 A 20160728; CR 20220194 A 20160728; CY 211100853 T 20210928; CY 211100956 T 20211105;  
DK 16831339 T 20160728; DK 18199685 T 20160728; EA 201890296 A 20160728; EC PI201806831 A 20180129; EP 16831339 A 20160728;  
EP 18199685 A 20160728; EP 21191711 A 20160728; ES 16831339 T 20160728; ES 18199685 T 20160728; GE AP2016014712 A 20160728;  
GE AP2016015554 A 20160728; GE AP2016015864 A 20160728; HK 18107602 A 20180612; HR P20211333 T 20210819;  
HR P20211645 T 20160728; HU E16831339 A 20160728; HU E18199685 A 20160728; IL 25721618 A 20180129; IL 28791621 A 20211108;  
IL 29057122 A 20220213; IL 29709022 A 20221006; JO P20160160 A 20160728; JO P20200213 A 20200902; JP 2018177320 A 20180921;  
JP 2018504643 A 20160728; JP 2021165884 A 20211008; JP 2023037192 A 20230310; KR 20187005653 A 20160728;  
KR 20187023163 A 20160728; LT 16044430 T 20160728; LT 18199685 T 20160728; MA 42542 A 20160728; MD E20180572 T 20160728;  
MD E20191256 T 20160728; MX 2018001227 A 20160728; MX 2019001161 A 20180129; MX 2022014645 A 20180129;  
PE 2018000138 A 20160728; PE 2023001364 A 20160728; PE 2023001374 A 20160728; PH 12018500232 A 20180129;  
PL 16831339 T 20160728; PL 18199685 T 20160728; PT 16831339 T 20160728; PT 18199685 T 20160728; RS P20211102 A 20160728;  
RS P20211320 A 20160728; SG 10201906059V A 20160728; SG 10202010506T A 20160728; SI 201631326 T 20160728;  
SI 201631367 T 20160728; TW 105123965 A 20160728; TW 109107547 A 20160728; TW 111110951 A 20160728; UA A201801414 A 20160728;  
US 201615748458 A 20160728; US 202016752464 A 20200124; US 202318114109 A 20230224; ZA 201800500 A 20180124;  
ZA 201807856 A 20181121